



June 27, 2014

To: Sandra Lyon, Superintendent, Santa Monica-Malibu Unified School District

From: Malibu Unites, through Jennifer deNicola, President

**MALIBU UNITES RESPONSE TO ENVIRON MEMO OF JUNE 16, 2014**

On June 16, 2014 Environ submitted a Memo to Sandra Lyon, Superintendent, Santa Monica-Malibu Unified School District (SMMUSD), in response to the emails of June 12 and June 14 from Malibu Unites (MU).<sup>1</sup> Ms. Lyon then proceeded to send this Memo to all of the families at the Malibu Schools, presumably because it represents the position of the District on the issues raised by MU. We find this somewhat alarming, because the Environ Memo contains multiple serious inaccuracies. More importantly, it betrays an intent to avoid even the minimal legal requirements for PCB remediation, much less the fully health-protective actions MU is seeking. MU wishes to set the record straight with the Malibu community, and we ask that Superintendent Lyon send this response to all of the parents and teachers in the Malibu schools to whom Environ's response was sent.

The emails from MU to which Environ is responding express the following concerns and suggestions:

- Environ's initial plan for PCBs was rejected by EPA with direction to resubmit a new plan by July 4. By the time this new plan is submitted for public comment and possibly revision as a result, it will be impossible to complete testing and remediation before the new school year.
- MU therefore suggests that the District order portable units for the Middle School building for use while the rooms, which already tested above federal standards, are remediated and the rest of the building's materials are properly tested.
- Best Management Practices (BMP) cleaning is not a scientifically proven method to reduce PCBs.
- Continuous air testing and repeated BMP cleanings in lieu of removal of PCB-containing materials is not cost-effective.
- The most protective plan for health, as well as the District's finances and potential legal liability, is to test all the sources now, disclose all results and make a plan to remove them.

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<sup>1</sup> Exhibit A hereto.

<sup>2</sup> U.S. EPA Comments on "Comprehensive PCB-Related Building Materials Inspection, Management and Removal Plan for Santa Monica-Malibu Unified School District"

- A question was asked about Environ's specific experience with PCBs in schools.
- In a follow-up email to the members of the Board of Education, MU repeated and elaborated upon these concerns and again requested portable classrooms for the Middle School for when school re-opens in August.

# 1. EPA Did Reject Environ's Plan to Leave Illegal Caulk in Place

The most disturbing aspect of Environ's response, and the District's circulation of it, is Environ's defense of its plan to leave PCBs in place until uncertain future renovations or demolitions at unknown times. Environ continues to defend this plan even though EPA rejected it and insisted that there be a timetable for removal of caulk containing PCBs above federal limits. Environ continues to insist that EPA did not reject its plan, despite EPA's clear statements to the contrary.

In its response to the Environ plan, EPA stated that "The MHS plan should include a schedule to remove caulk tested and containing total PCBs at levels equal to or about 50 mg/kg."<sup>2</sup> EPA confirmed its rejection of the Environ plan in an email to MU: "The Plan and the transmittal memo were inadequate in meeting the TSCA<sup>3</sup> requirements for a cleanup plan to address caulk containing PCBs greater than 50 ppm at MHS. In our comments we requested the District submit a Malibu High School specific plan that meets the requirements of TSCA, including the required certifications under 40 CFR 761.61(a). . . . We expect that the MHS specific PCB cleanup plan due July 4, 2014 will include at least (1) a proposed schedule for removal of the caulk greater than 50 ppm . . ."<sup>4</sup> At a meeting with the Malibu community on June 20, 2014, EPA Regional Administrator Jared Blumenfeld confirmed EPA's position that Environ's plan was inadequate and needed to be redone. Mr. Blumenfeld stated: "Right. So that's what I came here to do. It's to say, How do we build a partnership so that you trust us enough to say when we tell the district that their plan isn't good enough and that they need to do a new one by July 4."

The very materials that Environ attached to its Memo confirm EPA's unequivocal stance, based on federal law, that materials containing 50 ppm or more of PCBs must be removed. EPA had earlier confirmed to MU that "[O]nce materials are known to contain PCBs at or above 50 ppm, the use prohibition applies and, unless otherwise authorized

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<sup>2</sup> U.S. EPA Comments on "Comprehensive PCB-Related Building Materials Inspection, Management, and Removal Plan for Santa Monica-Malibu United School District: (General Plan)," dated April 2014, at B.1. Ex B hereto. EPA further stated that "If caulk with PCBs equal to or above 50 ppm is proposed to be encapsulated, such approach, if approved by EPA, would be a short-term alternative to minimize exposure to PCBs. Such alternative would be subject to approval by the EPA contingent upon a schedule for ultimate removal of PCB-containing caulk." *Id.* at C.5.

<sup>3</sup> TSCA is the federal Toxic Substances Control Act.

<sup>4</sup> Email from Steve Armann, EPA to Jennifer deNicola, Malibu Unites, dated June 18, 2014 (emphasis added). Ex. C hereto.

for use by the regulations, these materials must be removed and disposed of consistent with the regulations.”<sup>5</sup>

Environ attempts to obfuscate the fact that its plan was rejected by EPA as in violation of federal law, by pointing to EPA’s recommendation that Environ move ahead with the non-remediation portions of its plan to visually inspect building materials and implement BMP cleaning and sampling. This is irrelevant to EPA’s rejection of Environ’s PCB remediation (removal) plan. EPA has clarified this distinction, but apparently Environ and the District did not get the message, although the District was copied on a clarification in a June 18, 2014 email from Jeff Scott of EPA. It states: “Last week we provided input for the cleaning and testing of the classrooms in the near term. . . . The district still owes us a plan for the remediation effort by July 4th. People were getting confused that our comments on the near term effort were an approval of the remediation plan - which is not true. That plan will be made available for our review and the review of others.”<sup>6</sup>

2. Because No Remediation Will Take Place this Summer, the District Needs to Supply Portable Classrooms for those which Tested above the Legal Limit

Nothing in Environ’s Memo refutes MU’s claim that testing and remediation will not be completed before the new school year, and that the District should plan for portable classrooms for the rooms which tested above legal limits. Environ will not even propose its remediation plan until July 4, and then, as EPA has assured us, EPA will then review the plan and make it available for public comment. It is unlikely that a plan will even be approved much before mid-August when school begins, and not possible that it will actually be carried out by then. Even Environ’s initial sampling plan will not be complete by the end of the summer. Environ states that at the end of the summer it will prepare a report with a summary of its inspection and sampling results, which could include recommendations for additional testing and follow-up work.<sup>7</sup> The process of actual remediation will not have even begun. Teachers and students should not be returned to classrooms with illegal levels of PCBs which have not been remediated.

3. Air and Wipe Sampling Alone without Testing Potentially PCB-Containing Materials is Intended to Avoid Finding Additional Legal Violations which Would Compel Removal of Toxic Materials

Environ not only plans to evade the legal responsibility to remove caulk already found to contain PCBs above regulatory limits; its plan is also designed to avoid finding any other regulatory violations. By testing only air and dust and not potentially-PCB containing materials themselves, Environ will never find additional materials containing

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<sup>5</sup> “EPA’s Responses to Ms. deNicola’s Questions and Items Submitted to EPA on March 10, 2014” at p 1, Sec. A.b, Ex. D hereto.

<sup>6</sup> Email from Jeff Scott, EPA to Penny Newman and others dated June 18, 2014 (emphasis added), Ex. E hereto.

<sup>7</sup> Memorandum dated June 13, 2014 from Doug Daugherty et al, Environ to Steve Armann, et al., EPA, p. 4, Sec. IV.d, Ex. F hereto.

over 50 ppm PCBs which by law must be removed. There is every reason to believe that there are more such materials in pre-1980 buildings all over the three schools, given that amounts in excess of legal limits were found in four out of ten rooms where caulk was previously tested.

In this “don’t ask, don’t tell” policy towards PCBs, Environ is abetted by EPA, which has advised school districts that testing materials to determine whether they exceed permissible levels of PCBs is not mandated by TSCA, and that it recommends air testing instead. EPA has applied that policy to Malibu, stating that except for caulk which has already tested above 50 ppm PCBs, “[w]e are not requiring additional caulk testing or removal beyond what the cleanup plan may require unless air sample results are above our suggested public health guidelines.”<sup>8</sup>

EPA’s apparent reasoning is that PCB-containing materials are not doing any harm unless they are getting into the air. However, there are many problems with air testing, which must be done continuously to determine the levels under different conditions and over time, as well as with risk assessments which purportedly determine “acceptable” levels of exposure to known carcinogens.<sup>9</sup> Because of the extreme dangers to human health and the environment posed by PCBs, Congress chose in TSCA to completely ban PCB-containing materials such as caulk which could result in human exposure, not to ban them only if PCBs were migrating into air or dust at certain levels. EPA recognized this in TSCA’s implementing regulations, which state that: “Items with PCB concentrations of 50 ppm or greater present an unreasonable risk of injury to health within the United States. This finding is based upon the well-documented human health and environmental hazard of PCB exposure . . .” 40 C.F.R. 761.20. EPA cannot now decide that materials containing PCBs at 50 ppm or more do not pose a health threat and do not require action unless there are certain levels in air and dust, in contravention of the congressional direction in TSCA and EPA’s own regulations.

While it is true that testing materials is not explicitly mandated by TSCA, common sense would dictate that where Congress had found a material to pose a threat to public health and the environment such that it must legally be removed and properly disposed of, testing to determine the presence of such materials should be encouraged. It certainly should not be evaded in order to avoid finding regulatory violations and taking mandated action to protect public health. This kind of end run around the law is certainly not what the Malibu community expects of a School District which claims to be committed to protecting the health of students and teachers. The District should be directing its contractor, Environ, to test all potentially PCB-containing materials and to remove them if the PCBs exceed regulatory limits.

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<sup>8</sup> Letter from Steve Armann, EPA, to Jennifer deNicola, Malibu Unites, dated April 25, 2014 at p. 2, Ex. D hereto.

<sup>9</sup> EPA considers PCBs to be probable human carcinogens which can also damage the immune, reproductive, nervous, and endocrine systems. The International Agency for Research on Cancer recently upgraded PCBs to Group 1, known to be carcinogenic to humans. The limited and sometimes suspect (i.e. with windows open) testing at Malibu did find PCBs in the air; just not above the levels EPA deems “acceptable.”



4. BMP Cleaning had *Not* Been Shown to be Effective in Avoiding PCB Exposure

In MU's June 14 email to the Board of Education, we made the point that although cleaning of the Malibu schools is desirable and much-needed, it will not ensure protection from PCB exposure. This is of special concern since BMP cleaning is being proposed as a more or less permanent alternative to identifying and removing materials with illegal levels of PCBs. We quoted Kent Thomas at EPA's Office of Research and Development to the effect that "no scientific measurement data were collected on the effectiveness of cleaning, how often it needs to be done, and how to ensure it is done effectively for reduction in the potential for PCB exposures."<sup>10</sup> In response, Environ claims that there is evidence that BMPs are effective in limiting exposures to below health-based standards. Environ's claim is unsupported and misleading. The actual state of the science does not support its plan to use BMPs instead of testing and removal of materials containing PCBs.

Environ relies on the fact that EPA has recommended BMP cleaning, which in itself is certainly not scientific evidence of its effectiveness. Environ also claims that the previous BMP cleaning at MHS reduced air and wipe sample PCB concentrations. Environ quotes an EPA letter of April 25, 2014 which states that the cleaning in five rooms at MHS during winter break resulted in a reduction in PCB air concentrations of approximately 50% and a reduction of PCB concentrations on surfaces of approximately 90%. However, EPA admits in that letter that additional rooms cleaned and sampled by the District showed lower reductions in air concentrations.<sup>11</sup> In fact, in the room with the highest PCB air concentration, the gym faculty office, the concentration went from 96.65 ng per cubic meter to 89.02 ng per cubic meter, only about a 9% reduction.<sup>12</sup> The overall difference for the rooms tested was 38% for those tested with windows closed and 7.8% for those tested with windows open. *Id.* at 3. Whatever the reductions are, there is no scientific evidence as to what they actually mean in terms of health. There is also no evidence as to how long they last – i.e. how quickly PCB-laden dust is re-deposited. It may well be that over time, there is little difference in PCB concentrations unless BMP cleaning is done very frequently. As Mr. Thomas pointed out, there is no knowledge of how frequently it needs to be done to maintain reductions.

As MU stated in its emails, the cost of continued BMP cleaning and testing is quite high – likely hundreds of thousands of dollars a year – and amounts to a very expensive band-aid for a serious health problem that can only be solved by actually removing the sources of the PCBs.

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<sup>10</sup> Email from Thomas Kent, EPA to Jennifer deNicola dated May 8, 2014, Ex. G hereto.

<sup>11</sup> Letter from Steve Armann, EPA to Jennifer deNicola, Malibu Unites dated April 25, 2014, 2<sup>nd</sup> page, Ex. D hereto.

<sup>12</sup> Pre- and Post- Best Management Practices Cleaning Polychlorinated Biphenyl Air Sampling Report, Mark Katchen and Hsin Chou, February 2014 at 2, Ex. H hereto. The windows in that room were closed for both pre- and post-testing.

Environ also claims that a PCB Pilot Study for New York City Schools is evidence of the effectiveness of BMP cleaning.<sup>13</sup> Environ quotes out of context a statement that BMPs are actually more effective than removing and replacing the caulk. In fact, the Pilot Study found that none of the methods tested (including BMPs) were fully effective and that new remedial approaches were needed.<sup>14</sup> The reasons that even removal of caulk was found to be relatively ineffective were 1) that it was likely that there were other sources of PCBs besides caulk in the schools studied, *id.* at 30, and 2) that caulk with PCBs appeared to have contaminated the underlying substrate, which in turn contaminated the new, clean caulk. De-contamination or isolation of the underlying substrate before caulk was replaced would be necessary to achieve success. *Id.* at 31, 34. Thus, the Pilot Study supports the need for more, not fewer remedial measures to solve the problems posed by PCBs in caulk.

5. Environ's Correspondence with EPA Reveals a Betrayal of District and EPA Promises of Transparency and Community Involvement

Environ's Memo and its attachments revealed for the first time to MU and the public that EPA had been secretly communicating with Environ concerning the sampling to be conducted in conjunction with BMP cleaning, and that in fact EPA approved a plan which was to begin implementation on June 16, 2014, the same date that the Environ Memo first alerted the public that a testing plan had been approved by EPA.

There is no evidence that these documents would have seen the light of day at all if Environ had not wished to use the EPA communications to support its claim of EPA approval of its activities. This conduct betrays the promises of both EPA and the School District that testing and remediation plans would be made available for public comment prior to implementation. EPA and the District were well aware that groups like MU wanted to have input into these plans, and that MU had hired its own expert to review them. MU considers the secret development and approval of plans with no public input prior to implementation to be yet another betrayal of trust and evidence that EPA and the District are not sincere in their claims of transparency and public involvement.

Another example of a lack of candor and transparency is that buried in Environ's Draft Preliminary Environmental Assessment Work Plan, Appendix G,<sup>15</sup> is the fact that PCB-containing light ballasts were removed from MHS in 2013 and 2014, without informing parents or teachers, who in fact had been told that all PCB-containing ballasts had been removed long ago.

6. The Newly Available EPA-Approved Testing Protocols Contain Serious Flaws

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<sup>13</sup> Available at <http://www.epa.gov/Region2/pcbs/PCT%20PilotStudySummaryReport.pdf>.

<sup>14</sup> Pilot Study at 4.

<sup>15</sup> Available on the SMMUSD website.

The newly available EPA-approved testing protocols contain serious flaws. This underlines the importance of transparency and community involvement, because MU and others would have objected to these provisions prior to implementation had we had the opportunity. We still object and ask that they be corrected. Additional concerns are likely to be raised when our expert has the opportunity to fully review these materials.

For example, although EPA previously insisted that the PCB plan ensured that all rooms in pre-1979 structures be sampled,<sup>16</sup> Environ's plan, apparently accepted by EPA, provides that at most 1/3 of the rooms will be sampled.<sup>17</sup>

Of great concern is that EPA's recommendations to Environ are actually intended to help Environ to avoid finding PCBs which might constitute legal violations and require remediation. EPA suggests that testing of wipe samples use a solvent other than hexane be used "to avoid extracting PCBs out of the caulk material."<sup>18</sup> EPA notes that if hexane is used, "the results may have a high bias," *id.*, that is, they would reflect not just the PCBs already in the dust, but some of the PCBs that had been in the caulk. If the purpose of the testing were really to find and assess the presence of PCBs, EPA would not be advising Environ to use solvents that would avoid detecting PCBs.

## CONCLUSION

Environ's Memo is inaccurate and misleading. MU stands by the statements and recommendations in its emails to Superintendent Lyon and the Board of Education. The actual facts demonstrate that Environ, with the District's direction and support, is attempting to avoid compliance with the law, which requires removal of caulk containing 50 ppm or more PCBs. Environ has created a PCB plan which will avoid finding any more caulk that contains illegal levels of PCBs. Environ's plan will instead employ BMP cleaning which has not been scientifically proven effective and air and dust sampling which without source sampling may not be predict exposure. In addition, a one time air sample is only a snapshot and is not indicative of yearly exposure. These measures will have to be repeated regularly into the future, at great expense, without ever really solving the problem by removing the sources of the PCBs. MU continues to demand testing of all caulk in pre-1980 buildings, removal of all caulk found to contain PCBs above 50 ppm, as well as remediation of other materials which may have been contaminated by the caulk, and removal of all PCB-containing light ballasts and the area around the ballasts tested. Until the classrooms, which have already been shown to contain illegal caulk, have been fully remediated as well as similar classroom caulk tested, the District should supply temporary classroom buildings.

Respectfully,  
Jennifer deNicola for Malibu Unites

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<sup>16</sup> Letter from Steve Armann, EPA to Sandra Lyon, SMMUSD, dated January 27, 2014 at 2, Ex. I hereto.

<sup>17</sup> Ex. F at p 2, Sec. I.c.

<sup>18</sup> Email from Tom Huetteman, EPA to Doug Daugherty, Environ and others dated June 11, 2014, Ex. J hereto.

cc: Members of the SMMUSD Board of Education

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State Senator Fran Pavley

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Doug Daugherty

Eric Wood

Carol Serlin

## **LIST OF EXHIBITS**

**Exhibit A:** Memorandum dated June 16, 2014 to Sandra Lyon, SMMUSD from Doug Daugherty, and others, Environ, Re: Response to June 12 and June 14<sup>th</sup> Emails from Malibu Unites

**Exhibit B** Letter from Steve Armann, EPA to Sandra Lyon, SMMUSD dated June 4, 2014, with attached USEPA Comments on “Comprehensive PCB-Related Building Materials Inspection, Management, and Removal Plan for Santa Monica-Malibu United School District” (General Plan), dated April 2014

**Exhibit C** Email from Steve Armann to Jennifer deNicola dated June 18, 2014

**Exhibit D** Letter from Steve Armann, EPA to Jennifer deNicola dated April 25, 2014, with attached “EPA’s Responses to Ms. deNicola’s Questions and Items Submitted to EPA on March 10, 2014”

**Exhibit E** Email from Jeff Scott, EPA to Penny Newman dated June 18, 2014

**Exhibit F** Memorandum to Tom Heuterman, EPA from Doug Daugherty and others, Environ, dated June 13, 2014, Re: “Additional Information on the Selection of Representative Rooms for Air/Wipe Testing – Revision 1”

**Exhibit G** Email from Thomas Kent to Jennifer deNicola dated may 8, 2014

**Exhibit H** Pre- and Post- Best Management Practices Cleaning Polychlorinated Biphenyl Air Sampling Report, Mark Katchen and Hsin Chou, February 2014.

**Exhibit I** Letter from Steve Armann, EPA to Sandra Lyon, SMMUSD, dated January 27, 2014

**Exhibit J** Email from Tom Huetterman, EPA to Dough Daugherty and others dated June 11, 2014

## Exhibit A



June 16, 2014

### MEMORANDUM

To: Sandra Lyon, Santa Monica-Malibu Unified School District (SMMUSD)

From: Doug Daugherty, Eric Wood, and Carol Serlin, ENVIRON

Cc: Jan Maez, SMMUSD

Re: **Response to June 12<sup>th</sup> and June 14<sup>th</sup> Emails from Malibu Unites**

ENVIRON has reviewed the June 12, 2014 email to you from Jennifer deNicola, President of Malibu Unites (Attachment 1) as well as the June 14, 2014 email from Jennifer deNicola to the SMMUSD Board of Education (BOE) (Attachment 2). We have identified several inaccuracies and erroneous statements in both emails that we want to address in this memorandum.

As we discussed during the May 7<sup>th</sup> SMMUSD Study Session on ENVIRON's Plan related to PCBs, healthy schools is the District's (and ENVIRON's) goal and our approach is a risk-based approach to effectively manage the potential presence of PCB-containing building materials<sup>1</sup> while limiting exposures below health based standards. In general, ENVIRON's April 2014 Draft Comprehensive PCB-Related Building Materials Inspection, Management, and Removal Plan (the Plan) specifies the management in-place for potential PCB-containing materials in the form of Best Management Practices (BMPs) until removal of these suspect materials during scheduled renovations or demolitions except for the case where potential PCB-containing light ballast are identified during the building inspection phase as the plan recommends their more expedited removal. The framework of this approach is based on EPA best practices and research as well as the experience in addressing PCB-containing building materials by the New York City school system, among others, as cited in the Plan.

Because the June 12<sup>th</sup> and June 14<sup>th</sup> emails from Malibu Unites overlap, the clarifications provided by ENVIRON below are grouped according to common topics.

### **Assertion that EPA rejected ENVIRON's Plan is incorrect**

Contrary to the assertions made by Malibu Unites, EPA has not rejected ENVIRON's PCB plans<sup>2</sup> for Malibu High School (MHS) or Juan Cabrillo Elementary School (JCES). First, EPA's June 4<sup>th</sup> comment letter<sup>3</sup> to the District on the PCB plans (Attachment 3) does not use the word "reject" anywhere in their letter nor has EPA used that word in ENVIRON's discussions with them. In fact, EPA has informed the District and ENVIRON that we should move ahead with our summer plans for building inspections, implementation of BMPs and sampling at MHS and JCES, including in the following EPA statements:

<sup>1</sup> For purposes of this document, PCB-containing shall mean materials that contain any measurable concentration of PCBs detectable using common analytical procedures for air and wipe samples.

<sup>2</sup> "Comprehensive PCB-Related Building Materials Inspection, Management, and Removal Plan for Santa Monica-Malibu Unified School District" and covered letter prepared by ENVIRON submitted on April 25, 2014.

<sup>3</sup> Letter from S. Armann, Manager Corrective Action Section, Land Division, EPA Region IX, to S. Lyon, Superintendent of SMMUSD. June 4, 2014.

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- EPA's June 4<sup>th</sup> comment letter<sup>4</sup> specifically recommended that the District move forward with the Building Material Inspection Plan and PCB Best Management Practices (BMPs) part of ENVIRON's Plan when EPA stated: "The "Building Material Inspection Plan" and the "PCB Best Management Practices" contained in the General Plan do not require EPA approval, and **we recommend that the District move forward with these activities at MHS [emphasis added]** before the MHS plan is finalized."
- This was further confirmed in an email<sup>5</sup> from EPA to ENVIRON on June 13<sup>th</sup> (Attachment 4), which stated "EPA concurs with your approach to testing as described in the plan forwarded " by ENVIRON and said "I also want to confirm that we [EPA] do support the District conducting inspections and BMPs as stated in our June 4, 2014 letter".
- Furthermore, EPA expressed appreciation of the expedited implementation of the building inspection plan and BMPs part of ENVIRON's plan. As stated in an email<sup>6</sup> from EPA to ENVIRON on June 11<sup>th</sup> (Attachment 5), "We understand that ENVIRON and the SMMUSD will begin to implement the Testing Plan at the Malibu High School (MHS) and Juan Cabrillo on June 16, 2014. We appreciate ENVIRON and SMMUSD's expedited implementation of Section 2 (Inspection) and Section 3 (Best Management Practices) of the General Plan."

From the statements made by EPA, it is clear that they support the implementation of ENVIRON's building inspection, BMP, and samplings plans at MHS, which will also be implemented at JCES, and have not "rejected" these plans. Our understanding of EPA's basic comment in its June 4<sup>th</sup> letter was a request to restructure the original report so that specific activities at MHS in areas where previous caulk sample results indicated PCB concentrations greater than 50 ppm are clearly separated from the general Plan to allow for EPA regulatory approval of activities under areas of its regulatory authority.

#### **EPA's June 4<sup>th</sup> request is related to regulatory approval authority**

Based on ENVIRON's review of EPA's June 4<sup>th</sup> comments on our Plan and subsequent discussions with EPA, it is ENVIRON's understanding that EPA is requesting submissions to them be split into two categories: 1) those that fall under their regulatory approval jurisdiction and 2) those that are not under their jurisdiction for regulatory approval. Our understanding is that EPA wants to clarify their regulatory role and will provide regulatory approval only for specific aspects under their regulatory jurisdiction in accordance with the Toxic Substances Control Act (TSCA), which currently only involves MHS Library, and Blue Building Rooms 1, 5, 8, where previous caulk sample results indicated PCB concentrations greater than 50 ppm. For all other aspects of the District's and ENVIRON's plans related to the potential PCBs in building materials, ENVIRON understands that the EPA would provide recommendations and suggestions on these plans (as they did in their June 4<sup>th</sup> letter) but would not be granting regulatory approval of these plans since it is not under their regulatory jurisdiction. We are scheduled to meet with EPA to further clarify their intent and the additional information requested by them.

<sup>4</sup> Letter from S. Armann, Manager Corrective Action Section, Land Division, EPA Region IX, to S. Lyon, Superintendent of SMMUSD. June 4, 2014.

<sup>5</sup> June 13, 2014 email from T. Huetteman, Assistant Director RCRA Branch, Land Division, EPA Region IX to D. Daugherty of ENVIRON.

<sup>6</sup> June 11, 2014 email from T. Huetteman, Assistant Director RCRA Branch, Land Division, EPA Region IX to D. Daugherty of ENVIRON.



### **Air and wipe sampling will be conducted at MHS and JCES this summer**

The current schedule for conducting building investigation, BMP cleaning, and air and wipe sampling at MHS and JCES is posted on the District's website.<sup>7</sup> One of the requests in EPA's June 4<sup>th</sup> comments was to provide additional detail on the sampling to be conducted at MHS and JCES this summer (specifically, the request related to the sampling plan for MHS and comments A.2 and A.3).<sup>8</sup> ENVIRON submitted this additional information on the collection of air and wipe samples at MHS and JCES and EPA concurred with ENVIRON's sampling plan (Revision 1 – see Attachment 6) on June 13<sup>th</sup>.<sup>9</sup> This sampling plan will be implemented at MHS and JCES during the 2014 summer break at these two schools.

The goal of the sampling plan is to obtain samples from a sufficient number of locations and site-specific conditions to:

- 1) Serve as representative of the variety of potentially PCB-containing materials, conditions, and possible exposure pathways (inhalation, dermal, and incidental ingestion);
- 2) Address specific concerns of the community and staff at MHS and JCES;
- 3) Evaluate previous sampling efforts;
- 4) Assess effectiveness of Best Management Practices cleaning; and
- 5) Draw scientific conclusions on the potential presence of PCB-containing building materials and the potential for exposures to PCBs at MHS and JCES as compared to health based standards.

This approach is in alignment with EPA recommendations on testing. In an April 25, 2014 letter from Steve Armann of EPA to Jennifer deNicola of Malibu Unites (Attachment 7)<sup>10</sup>, EPA clarified that “the current regulations do not require testing of materials to determine if they contain PCBs at TSCA regulated levels.” Rather, EPA recommends that if testing is to be done then air testing can be conducted; if PCB levels in air exceed EPA's suggested public health levels, then they recommend investigation to identify potential sources of PCBs that may be present in that area.

### **Best Management Practices (BMPs) for PCBs have been shown to be effective**

Contrary to statements made by Malibu Unites, there is evidence that BMPs for PCBs are effective in limiting exposures to below health based standards, including the following:

- In the April 25, 2014 letter from Steve Armann of EPA to Jennifer deNicola of Malibu Unites (Attachment 7), “EPA has recommended that the District implement PCB Best Management Practices (BMPs) to reduce the amount of PCBs in dust and air.”
- In EPA's April 25<sup>th</sup> letter, they cite results of the cleaning of certain MHS rooms during the 2013-2014 school winter break and that “the results of this cleaning are very positive as they show reductions in PCB air concentrations by approximately 50% and in dust by approximately 90%.” EPA also noted in the letter that all the air results are within EPA's health protective guidelines.

<sup>7</sup> <http://www.smmusd.org/PublicNotices/MHS-CabrilloSummerCalendar.pdf>

<sup>8</sup> Letter from S. Armann, Manager Corrective Action Section, Land Division, EPA Region IX, to S. Lyon, Superintendent of SMMUSD. June 4, 2014.

<sup>9</sup> June 13, 2014 email from T. Huetteman, Assistant Director RCRA Branch, Land Division, EPA Region IX to D. Daugherty of ENVIRON.

<sup>10</sup> Letter from S. Armann, Manager Corrective Action Section, Land Division, EPA Region IX, to J. deNicola of Malibu Unites. April 25, 2014.



- ENVIRON's review of the post-cleaning verification sampling previously conducted at MHS indicates BMP cleaning generally reduced air and wipe sample PCB concentrations and all are below EPA's health based guidelines.
- As stated in EPA's April 25<sup>th</sup> letter, " EPA's general strategy to address PCBs in building materials is one of avoiding harmful human exposures." This letter further cites a number of EPA fact sheets on PCBs in building materials at schools (including ones related to BMPs) and that these " fact sheets recommend risk-management strategies to reduce unacceptable exposures from primary PCB sources and secondary PCB sources ."
- Furthermore, a PCB Pilot Study<sup>11</sup> conducted under a consent agreement with USEPA Region 2 to address PCBs in caulk in New York City schools indicates that BMPs reduce exposures to PCBs and discusses how BMPs are effective at lowering exposures to PCBs as compared to other remedial activities studied. Specific findings from that study and other referenced EPA school collected data include:
  - "The field data confirm that dust removal represents a significant remedial measure for the mitigation of PCBs present in indoor environments. These remedial measures should include removal of both bulk and surface dusts. Dusts represent an important exposure pathway that includes inhalation, non-dietary ingestion and dermal contact. Routine cleaning of schools will continue to reduce dust levels and in turn reduce exposures to PCBs found in indoor air and on dust laden surfaces". (page 3)
  - "Best Management Practices have been shown to be effective at reducing surface dust levels below USEPA criteria." (page 34)
  - "Based on the current data, with the exception of the Best Management Practices, each of the alternative remedial approaches [patch and repair of caulk, encapsulation of caulk, removal of all caulk and replacement with non-PCB caulks, and window frame and caulk removal and replacement], as designed and implemented in this Pilot Study, have been shown to be relatively ineffective over the long term as sole remedies." (page 35) Given removal of caulk or caulk and window frames have yet to, in words of the study "...yield an effective remedy for PCB caulk " over the long term, the report recommends further studies to evaluate new remedial approaches for caulk.

Thus, there is scientific information available that indicates BMPs are effective at reducing exposures to PCBs, contrary to the assertion made by Malibu Unites. BMPs are a useful risk-based management strategy that can be used prior to eventual removal of the caulk during planned renovations or demolitions while being protective of building occupants' health.

Moreover, as described in ENVIRON's June 13, 2014 memorandum to EPA, one of the goals for the air and wipe testing to be conducted at MHS and JCES during the 2014 summer session is to further evaluate the effectiveness of the BMP cleaning. The weekly, monthly and annual cleaning BMPs will be implemented by District custodial staff after training by ENVIRON to eliminate some past non-BMP practices and to implement the new BMP practices to help improve cleaning efficacy. The District is contracting with an outside firm to conduct annual cleaning of the HVAC system, and District staff will be trained to maintain and improve the HVAC systems at MHS and JCES.

<sup>11</sup> 2013. Summary Report for the New York City School Construction Authority Pilot Study to address PCB Caulk in New York City School Buildings. USEPA Consent Agreement and Final Order Docket Number: TSCA-02-2010-9201. Prepared by TRC Engineers, Inc. for New York City School Construction Authority.  
<http://www.epa.gov/Region2/pcbs/PCB%20PilotStudySummaryReport.pdf>

### **ENVIRON Qualifications**

Malibu Unites calls ENVIRON's qualifications into question based on their assertion that EPA "rejected" ENVIRON's Plan. However, as explained above in more detail, this statement is inaccurate. In fact, EPA has supported the implementation of our Plan's building inspections and BMPs as well as concurs with our sampling plan for MHS and JCES, which begins June 16<sup>th</sup>.

ENVIRON provided our qualification package in response to the SMMUSD's request for proposals and is posted on the SMMUSD's website.<sup>12</sup> Our qualifications packaged described both the firm's and the individual team members' experience including the experience related to PCBs in building materials. This information along with information provided in our interview was evaluated by a large review panel, including Jennifer deNicola of Malibu Unites, when evaluating our selection.

Also, we want to correct another inaccurate statement in the Malibu Unites email that ENVIRON's Plan was created by the San Francisco office. The plan was a joint effort between ENVIRON staff in its Irvine, Los Angeles, San Francisco, Chicago, and Boston, Massachusetts offices. As presented in our statement of qualifications, ENVIRON utilized a team well-versed in inspecting buildings for potential environmental hazards as well as members with experience related to PCBs in building materials.

### **Conclusions**

Thank you for this opportunity to respond to the several inaccuracies and erroneous statements in the Malibu Unites emails. As stated above, ENVIRON's goal is to support the District in achieving healthy schools, and our approach is a risk-based approach to effectively manage the potential presence of PCB-containing building materials while limiting exposures below health based guidelines. As described in our May 7<sup>th</sup> presentation at the SMMUSD Study Session, the principles used to develop our plan included:

- being protective of human health,
- using a science- and fact-based approach,
- consider experience of schools in EPA Region I and II,
- be applicable to any school in the District,
- be considerate of District resources, and
- be a "living" document that allows for updates with new science or results.

We look forward to continuing to work with you in applying these principles as part of the Plan's implementation this summer at MHS and JCES and in using these principles in on-going dialogue with all your stakeholders.

<sup>12</sup> <http://www.smmusd.org/PublicNotices/ProposalResponses/ENVIRONSOQ122013.pdf>

## Exhibit B



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

Via U.S. Postal Service and Electronic Mail

JUN 04 2014

Ms. Sandra Lyon, Superintendent  
Santa Monica Malibu Unified School District  
1651 Sixteenth Street  
Santa Monica, California 90404  
slyon@smmusd.org

Dear Superintendent Lyon:

Thank you for submitting the draft "Comprehensive PCB-Related Building Materials Inspection, Management, and Removal Plan for the Santa Monica-Malibu Unified School District" (District) dated April 2014 (General Plan). The U.S. Environmental Protection Agency, Region 9 (EPA) has reviewed the General Plan and our comments are enclosed.

Overall, the document needs significant restructuring to better clarify the activities that require EPA approval at Malibu High School. We request that the District submit two separate plans within 30 days after the date of this letter covering (1) Malibu High School (MHS) and (2) District-wide schools.

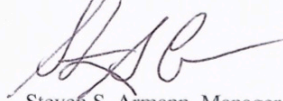
We will review and approve the MHS plan to address PCB contamination resulting from caulk known to have PCB concentrations greater than 50 ppm. We intend to approve the MHS plan under the most applicable sections of the Toxic Substances Control Act (TSCA) regulations for PCBs. The approval may be issued under a combination of the EPA's regulatory authorities in 40 CFR 761.61(a), 761.61(c), and 761.62(c). We do not intend to approve the General Plan (District-wide). We will review and comment on the General Plan for consistency with national approaches to PCBs in schools.

The "Building Material Inspection Plan" and the "PCB Best Management Practices" contained in the General Plan do not require EPA approval, and we recommend that the District move forward with these activities at MHS before the MHS plan is finalized. The enclosure includes comments on these tasks for your consideration. We would also like to observe the inspection process at MHS. Please provide us at least one week advance notice before initiating the inspections.



At your earliest convenience, please contact Carmen D. Santos at 415-972-3360 to set up a call to discuss our comments. Thank you for your cooperation and prompt attention to the matters in this letter.

Sincerely,

A handwritten signature in black ink, appearing to read 'SSA', with a long horizontal flourish extending to the right.

Steven S. Armann, Manager  
Corrective Action Section  
Land Division

Enclosure

Cc: Thomas Cota, DTSC

**U.S. Environmental Protection Agency (EPA) Comments On**  
***“Comprehensive PCB-Related Building Materials Inspection, Management, and Removal Plan for Santa Monica-Malibu Unified School District” (General Plan), dated April 2014***

**June 4, 2014**

**Introduction**

In our January 27, 2014 letter (EPA Letter), we requested that Santa Monica-Malibu Unified School District (the District) submit a plan for the Malibu High School (MHS) that at a minimum would address removal of all caulk known to contain PCB levels at 50 milligrams/kilogram (mg/kg or ppm) or higher, mitigation or removal of any deteriorating caulk in pre-1979 structures at MHS, and development of an air sampling plan for EPA approval. In response, on April 25, 2014 ENVIRON International Corporation (ENVIRON) transmitted the draft *“Comprehensive PCB-Related Building Materials Inspection, Management, and Removal Plan for Santa Monica-Malibu Unified School District”* (General Plan) on behalf of the Santa Monica-Malibu Unified School District.

Instead of developing a specific PCB Cleanup Plan for MHS, ENVIRON used the General Plan transmittal letter to address our specific guidance and cross referenced Sections 2 (PCB-Related Building Materials Inspection Plan), 3 (Best Management Practices), and 4 (PCB-Related Building Materials Characterization, Removal and Cleanup Plan) of the General Plan. Those two documents combined are not the specific plan that we requested for the MHS, and that specific plan still needs to be submitted for approval.

Sections A through C, below, provide general comments and recommendations on Sections 2 through 4 of the General Plan. As noted in the cover letter, we recommend that the District implement Sections 2 and 3 of the General Plan after considering the comments below.

As currently proposed by the District, there is little difference in the approach outline in the General Plan and what is proposed for Malibu High School. The proposed approach to all schools in the District is to assume that structures built or renovated between 1950 and 1980 contain certain materials with some concentration of PCBs and to manage these materials in place until demolition or renovation. The only discernable difference for Malibu High School is a commitment to submit an air sampling plan covering certain rooms not previously sampled.

To safely manage suspected PCB-containing materials, the District is proposing to visually inspect each school and implement applicable Best Management Practices (BMPs) based on inspection findings. BMPs include thorough cleaning of surface areas; cleaning and maintenance of HVAC systems; and repairing and replacing deteriorating caulk. With the exception of PCB-containing light ballasts and deteriorating caulk, the District proposes to leave in place any suspected PCB-containing material until renovation or demolition.

We believe the General Plan should be augmented with periodic air and surface wipe sampling to ensure that children and teachers are not exposed to harmful levels of PCBs during the time prior to renovation and demolition. Furthermore, we recommend that the general approach be expanded to include inspection of all pre-1980 light fixtures that may have PCB ballasts; wipe sampling of some surfaces post-BMP cleaning; and pilot studies to determine the frequency of BMPs and effectiveness of proposed encapsulates.

Our specific comments are provided below.

#### **Roles and Responsibilities**

The General Plan includes a formal role for EPA throughout the plan. The role of the EPA will be limited to (1) approving school-specific PCB cleanup plans where PCB regulated sources have been identified; (2) overseeing the implementation of EPA approved cleanup plans; and (3) providing technical assistance. As stated in the cover letter, EPA will not be approving the District-wide Plan. Please revise the General Plan accordingly.

#### **A. PCB-Related Building Materials Inspection Plan, Section 2, General Plan**

1. The term "PCB-containing" used throughout Section 2 and other sections of the General Plan needs to be defined. In general, the EPA uses the term "PCB-containing" when referring to caulk or other building materials containing total PCBs at levels equal to or above 50 milligram/kilogram (mg/kg or ppm).
2. The Inspection Plan is qualitative in nature and sampling of materials or environmental media are not part of the inspection. We understand the results of the visual inspection will be used to prioritize or consider where and which rooms will be sampled. The specific criteria that will be used to make those decisions should be described in detail and justified in the plan for the MHS.
3. In addition to visual inspection of building materials to create an "Inventory of Potentially Impacted PCB-Materials," BMPs should be conducted in all rooms. In addition, representative sampling and analysis of air, bulk dust (if available), and surface wipe samples be conducted for PCBs to ensure that PCB levels do not pose a risk of injury to health or the environment.
4. We recommend the "Inventory of Potentially Impacted PCB-Materials" be an inventory of potential PCB primary sources and "assumed" potentially-impacted building materials (secondary sources).
5. The Inspection Plan states that buildings constructed before 1980 and with available renovation records may be "eliminated from the building inspection process." Despite the availability of renovation records, buildings at MHS or rooms constructed before 1980 should be thoroughly inspected. Renovation may not have addressed primary sources of PCBs, and if primary sources were present, building or room renovation may not have addressed secondary PCB sources. A preliminary recommendation to conduct representative air sampling in those buildings or rooms with available renovation records should be considered to verify that PCBs are not an issue in those structures.
6. The inspection is proposed to also address electrical equipment that may be present at the MHS. All fluorescent light fixtures should be inspected, including both ballasts and the light fixtures. It is possible that ballasts were replaced but not the fixture. Legacy PCB releases may reside on the fixtures if only the ballasts were replaced.



7. Inspection of one FLB within one FLB group may not be representative of true conditions regarding physical integrity of the FLBs and integrity of the ballasts inside the FLBs within a group of FLBs. We understand that certain non-fluorescent lighting manufactured prior to 1979 may also have PCB ballasts (e.g., metal halide lamps). Please inspect all lights.
8. We recommend the HVAC system (as that system is defined in the General Plan) inspection include checking for presence of dust to determine if, in addition to surface wipe samples, some bulk dust samples could be collected.
9. The inspector is expected to evaluate potential for human exposure after completing the inspection and to make this determination at the exit conference or some time shortly after. It seems that task should be done by a risk assessor or someone trained in risk evaluation. How will evaluation for human exposure be done without sampling and analysis data? Would the evaluation be qualitative, and quantitative data to be collected at a later time to verify the findings and conclusions of the inspection in reference to human risks?

**B. PCB Best Management Practices, Section 3, General Plan**

1. The MHS plan should include a schedule to remove caulk tested and containing total PCBs at levels equal to or above 50 mg/kg. We acknowledge that ENVIRON proposes to remove the caulk within a 9 to 12 months after the Coastal Commission Permit is issued to the District. However, it is not clear how long it will take for that permit to be issued. Therefore, in addition to the requested schedule, if issuance of the Coastal Commission Permit takes longer than one year after the date of these comments, include a sampling and analysis plan to monitor PCB concentrations in air and on surfaces in the four rooms known to have PCB-containing caulk to ensure that PCB levels remain below health guidelines.
2. The MHS plan should propose a schedule for routine implementation of Best Management Practices (BMPs). Such schedule should describe the type of BMPs to be implemented and propose a BMP implementation frequency with justification.
3. Flow diagrams and decision trees for BMPs should be included in the MHS plan similarly to those included in ENVIRON's presentation to the District's Board.
4. We understand that BMPs are being implemented under the premise that, if caulk is present, it contains PCBs and that waste will be generated during implementation of BMPs. A waste determination should be made in order to determine the appropriate management and disposal options under the TSCA PCB regulations.
5. The District should consider the analysis results that may be available for waste generated during the initial cleanup of the school in the winter of 2014. That information may be used to determine applicable disposal options for waste that may be generated in subsequent school cleanings. If data to determine waste disposal options is not available for the MHS, we recommend a pilot study be conducted to identify the applicable waste disposal requirements under the TSCA PCB regulations.

6. We recommend that an "initial" thorough cleanup of the HVAC system be conducted. We recommend the District propose a pilot study in the MHS plan to help establish an optimum frequency for cleanup of that system. The General Plan proposes an annual frequency for cleanup of the HVAC system without justification. In reference to the HVAC cleaning approach in the BMP Plan, we recommend that window openings be blocked to prevent dust from leaving the work area.
7. The BMP Plan states that "[w]hen the damaged materials is suspected to contain asbestos (>1%), asbestos remediation procedures should be followed and the repair or patch can only be conducted by asbestos certified workers." How would an inspector and parties responsible for implementation of the BMP Plan know asbestos might be or might not be present in the material being removed?
8. The EPA ORD April 2012 report, "Evaluation of the Encapsulation Method" (referenced in Footnote 7 of the BMP Plan) discusses limitations associated with encapsulation of materials containing or surfaces contaminated with PCBs. These limitations support the need for routine surface wipe or air sampling to verify the encapsulate effectiveness. Before final decisions are made on encapsulates that may be used at the MHS, we recommend the District confer with the EPA on this matter.
9. In addition to the "white glove" test, we recommend that wipe samples of cleaned surfaces be collected to verify if risk-based goals for PCBs in surfaces are being met via the BMPs. Please provide a proposed concentration goal for wipe samples.

**C. PCB-Related Building Materials Characterization, Removal and Cleanup Plan,  
Section 4, General Plan**

1. For MHS, the notification to the EPA under the TSCA PCB regulations must include the written certification required in 40 CFR 761.61(c)/761.61(a)(3)(i)(e) and the cleanup plan supported by a characterization plan and other relevant information.
2. For a school scenario, the EPA will approve cleanup of soils under 40 CFR 761.61(c). As such, the terms high occupancy and low occupancy in 40 CFR 761.61(a) are not applicable. The EPA intends to apply health-based cleanup levels for soils (e.g., Regional Screening Levels or RSLs) that are more stringent than those prescribed in 40 CFR 761.61(a).
3. With regard to Section 4.3.1.1, in certain situations and based on laboratory analysis, a building material may contain PCBs below 50 mg/kg. That material may meet the definition of an excluded PCB product. However, the District should confer with the EPA when proposing such a determination.
4. The cleanup plan in Section 4 proposes to use encapsulates if cleanup of the substrate does not result in PCB concentrations at or below 1 mg/kg. We recommend use of encapsulates proven to be most effective for PCB applications based on the April 2012 EPA ORD report. The use of encapsulation will require continued implementation of BMPs, collection of surface wipe



samples, and air samples to verify encapsulate effectiveness. The District and EPA should further discuss this matter.

5. If caulk with PCBs equal to or above 50 ppm is proposed to be encapsulated, such approach, if approved by the EPA, would be a short-term alternative to minimize exposure to PCBs. Such alternative would be subject to approval by the EPA and contingent upon a schedule for ultimate removal of the PCB-containing caulk. The use of encapsulation will require continued implementation of BMPs, collection of surface wipe samples, and air samples to verify encapsulate effectiveness. The District and EPA should further discuss this matter.

## Exhibit C

From: Armann, Steve  
Sent: Wednesday, June 18, 2014 7:11 AM  
To: Jennifer DENICOLA  
Cc: Scott, Jeff; Huetteman, Tom  
Subject: Concurrence on District's Sampling Plan

Jennifer, Last night Jeff asked me to follow up with you regarding the status of the required cleanup plan and the recently "approved" sampling plan. Below, I've outlined where we are with the District. Please call if you have any questions or we can talk on Friday. Thanks.

\* On June 4, 2014 we submitted comments to the District on their General Plan (Plan) to address PCBs at schools within the Santa Monica Malibu Unified School District. The transmittal letter to the Plan outlined how the District intended to apply the Plan at Malibu High School. The Plan and the transmittal memo were inadequate in meeting the TSCA requirements for a cleanup plan to address caulk containing PCBs greater than 50 ppm at MHS. In our comments we requested the District submit a Malibu High School specific plan that meets the requirements of TSCA, including the required certifications under 40 CFR 761.61(a).

\* Our comment letter also recommended that the District move forward with the "Building Material Inspection Plan" and the "PCB Best Management Practices" sections of the Plan after consideration of our comments. These activities do not require EPA approval.

\* We requested that the MHS specific plan and District-wide plan be submitted to us by July 4, 2014. We said we will approve the MHS plan and provide comments on the District-wide plan.

\* Last week the District submitted a sampling plan and, after comments, we concurred with their approach. The plan is to conduct air and wipe samples prior to and after implementation of the BMP to demonstrate effectiveness of the BMPs. Our concurrence was requested in order to facilitate monitoring and implementation of the BMPs during the current summer break. The District will need to submit a revised sampling plan to address long term monitoring of the caulk known to be above 50 ppm.

\* We expect that the MHS specific PCB cleanup plan due July 4, 2014 will include at least (1) a proposed schedule for removal of the caulk greater than 50 ppm; (2) proposed monitoring plan to ensure air and surfaces are protective during the period before removal and immediately after removal of the caulk; (3) proposed surface wipe health based cleanup standards; (4) proposed process for decontamination of substrate in contact with PCB containing caulk, and (5) proposed pilot studies to evaluate frequency of BMPs.

Steven S. Armann, Manager  
Corrective Action Office (LND-4-1)  
USEPA Region 9  
75 Hawthorne Street  
San Francisco, CA 94105

Phone: 415-972-3352  
Fax: 415-947-3533  
Email: [armann.steve@epa.gov](mailto:armann.steve@epa.gov)

## Exhibit D



### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

April 25, 2014

Ms. Jennifer deNicola, President  
Malibu Unites  
22747 Pacific Coast Highway, Suite 401  
Malibu, California 90265

Dear Ms. deNicola:

Thank you for your March 10, 2014 email asking that I address several concerns regarding EPA's strategy to address PCBs at the Malibu High School/Middle School.

I want to provide some background on EPA's approach to PCBs in schools and how this is implemented at Malibu High School/Middle School. PCBs were widely used in caulking materials, as well as in paints and other building materials, in structures constructed from the 1950s until the late 1970s. It is common to find PCBs in buildings such as schools constructed or renovated during this time frame. Given the widespread use of PCBs and the variation of PCB concentrations in building materials, EPA's general strategy to address PCBs in building materials is one of avoiding harmful human exposures.

EPA has developed and posted a number of fact sheets to help school administrators and building owners address the impacts associated with potential exposures from PCBs in building materials. The fact sheets recommend risk-management strategies to reduce unacceptable exposures from primary PCB sources (i.e., products manufactured with PCBs like caulk and light ballasts) and secondary PCB sources (i.e., materials that may become contaminated by primary sources).

The EPA fact sheet, "Preventing Exposure to PCBs in Caulking Material" (available at <http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/caulk/pdf/caulkexposure.pdf>) provides a good summary of key recommendations such as:

- Steps that concerned school administrators can take to minimize the potential for PCBs in the indoor air;
- Cleaning and proper maintenance of ventilation systems; thorough and frequent cleaning of surface areas to minimize exposures; and
- "If school administrators and building owners are concerned about exposures to PCBs and wish to supplement these steps, EPA recommends testing to determine if PCB levels in air exceed EPA's suggested public health levels. If testing reveals PCB levels above these levels, schools should attempt to identify any potential sources of PCBs that may be present in the building, including testing samples of caulk and other building materials."

Generally, when testing of caulk or other building materials in structures show PCBs are present at or above 50 ppm, the PCB regulations in 40 CFR 761 implementing the Toxics Substances Control Act (TSCA) require that the PCB-containing material be removed.

When spills or releases of liquid PCBs at or above 50 ppm contaminate non-porous surfaces (e.g., metal), those surfaces must be cleaned to the regulatory standard of less than or equal to 10 ug/100 cm<sup>2</sup> PCBs. Porous surfaces (e.g., concrete, brick) and non-porous surfaces can also become contaminated by PCBs contained in dust. For these situations, a site specific, protective risk-based PCB standard for surfaces will be developed as part of the cleanup plan.

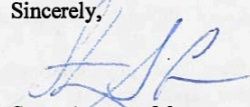
In the case of Malibu High School/Middle School, EPA was notified in November 2013 that the District had collected surface wipe, caulk, and air samples and had these samples analyzed for PCBs. All of the air samples had PCB levels within EPA's acceptable risk range for a residential exposure scenario and below the applicable EPA "Public Health Levels for PCBs in Indoor School Air" ("<http://www.epa.gov/pchsincaulk/pdf/maxconcentrations.pdf>"). However, four surface wipe samples showed PCB levels above 10 ug/100 cm<sup>2</sup>; and four caulk samples showed PCB concentrations above 50 ppm. Because the caulk and wipe samples were above the TSCA regulatory levels, I notified the District that they would need to submit a cleanup plan to EPA and recommended that they implement PCB Best Management Practices to control dust.

During the school's winter break, the District conducted cleaning of the five rooms with the elevated PCBs in caulk and/or wipe samples, as well as, conducted post-cleaning air and wipe sampling. Comparison of the pre- and post-cleaning air and wipe samples show that all post-cleaning samples were below our guidelines and show a reduction in PCB air concentrations of approximately 50 percent and a reduction of PCBs on surfaces of approximately 90 percent. We are aware that certain additional rooms cleaned and sampled independently by the District, without EPA oversight, show lower reductions in air concentrations.

On April 25, 2014, we expect to receive a cleanup plan from the District that will include, at a minimum, a plan to remove all caulk currently tested that contains PCBs above 50 ppm, remove any deteriorated caulk from the school, and sample air inside all pre-1979 structures. In addition, we recommended that the District consider annual thorough cleaning of the school to maintain air quality. We are not requiring additional caulk testing or removal beyond what the cleanup plan may require unless air sample results are above our suggested public health guidelines.

Enclosed are responses to your questions and concerns. If you have any questions regarding my response, please contact me by phone at 415-972-3352 or email at [Armnn.Steve@epa.gov](mailto:Armnn.Steve@epa.gov).

Sincerely,



Steve Armann, Manager,  
Corrective Action Section, Land Division

Enclosure

cc: Thomas Cota, DTSC



EPA's Responses to Ms. deNicola's Questions and Items Submitted to EPA on March 10, 2014

Because the topic of many of the questions in the March 10<sup>th</sup> email overlap, the responses below are grouped according to common topics.

**A. General Clarification**

**a. Scope of the TSCA PCB Program**

EPA's formal involvement with the Malibu High School is under the PCB regulations in Title 40 of the Code of Federal Regulations (CFR) Part 761 implementing the Toxic Substances Control Act (TSCA). The TSCA PCB regulations apply only to PCBs. Consequently, EPA's role is limited to providing regulatory oversight and technical assistance in connection to PCBs. Through implementation of its TSCA PCB program, EPA does not oversee investigation or make decisions related to other contaminants.

**b. PCB Use Authorization**

In 1979, TSCA banned the manufacturing, processing, distribution in commerce, and use of PCBs. EPA's implementing regulations prohibit the use of materials (or products) manufactured with PCBs, such as caulk, sealants, and paints, at levels equal to or above 50 ppm. EPA has authorized certain specified uses of PCBs at these levels, however, but such uses must not result in unreasonable risks to human health and the environment. The PCBs must also be used in a "totally enclosed manner" (no direct access to or direct exposure to PCBs) and the physical integrity of the equipment containing the PCBs may not be compromised in any manner (no leaks or malfunction that may result in releases or exposure to PCBs). An example of an authorized use is PCB containing ballasts in pre-1979 florescent light fixtures.

In determining whether PCBs are being improperly used, the current regulations do not require testing of materials to determine if they contain PCBs at TSCA regulated levels. However, once materials are known to contain PCBs at or above 50 ppm, the use prohibition applies and, unless otherwise authorized for use by the regulations, those materials must be removed and disposed of consistent with the regulations. In addition, contamination caused by movement of PCBs from those products into other building materials, substrates (e.g., concrete), and/or into the environment must also be cleaned up to an appropriate level. The District's cleanup plan will need to address the substrate (e.g., concrete, window metal frame) in contact with caulk equal to or above 50 ppm.

**c. Encapsulation of PCB Materials.**

Encapsulation may be used to minimize PCB concentrations in air and may only be a temporary solution. The effectiveness of encapsulation depends on several factors such as the PCB concentration in the building material to be encapsulated, type of encapsulate, and thickness of the applied encapsulate layer.

**B. EPA's Use of Risk-Based Guidelines for PCBs in Schools**

**a. EPA Risk Range**

EPA's acceptable cancer risk range spans from  $10^{-4}$  (one excess cancer in a population of 10,000 exposed individuals) to  $10^{-6}$  (one excess cancer in a population of 1 million exposed individuals). This risk range is codified in 40 CFR Part 300, "National Contingency Plan" regulations for implementing the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly referred to as Superfund. EPA uses this risk range nationally in making health or risk-based decisions across its various environmental programs under different statutes such as the Safe Drinking Water Act, Resource Conservation and Recovery Act, and TSCA. The referenced risk range supports the overall TSCA standard of preventing unreasonable risks of injury to health and the environment.

**b. Evaluating PCB Risks**

To assist EPA in evaluating sites to determine if contaminant levels represent an exposure hazard, we often refer to the health-based, media specific concentrations found in EPA's guidance document "Screening Levels for Chemical Contaminants at Superfund Sites" – or more commonly known as the Regional Screening Levels (RSLs). These risk-based screening levels are available at <http://www.epa.gov/region9/superfund/prg/>. The RSLs are a screening tool with levels based on a  $10^{-6}$  cancer risk or the low end of EPA's acceptable risk range. The RSL for PCBs in air under a residential exposure scenario is  $0.0043 \text{ ug/m}^3$  (0.0003 ppb). Therefore, in a residential exposure setting EPA's acceptable concentration level would range from  $0.0043 \text{ ug/m}^3$  (0.0003 ppb) to  $0.43 \text{ ug/m}^3$  (0.032 ppb).

EPA's national PCB program has established and published "Public Health Levels for PCBs in Indoor School Air" (School Levels). The School Levels are established at concentrations below which "EPA does not believe will cause harm." The acceptable PCB air concentration in schools ranges from  $0.07 \text{ ug/m}^3$  (0.0053 ppb) to  $0.6 \text{ ug/m}^3$  (0.045 ppb), depending upon the age of children. The concentration for teachers or adults is  $0.45 \text{ ug/m}^3$  (0.034 ppb). These levels are based upon a school scenario that assumes people are exposed for 10 hours a day for 180 days a year. In contrast, the PCB RSL concentration is based upon an assumption that people are exposed for 24 hours for 360 days for 30 years. The highest concentration of PCBs found in air to date at Malibu High School is  $0.1 \text{ ug/m}^3$  (0.0075 ppb) and this concentration in a school exposure scenario is roughly equivalent to a 1 in 1 million ( $10^{-6}$ ) excess risk, or likelihood, of developing cancer.

Based on the School Levels, the relevant health levels for Malibu High School range from  $0.3 \text{ ug/m}^3$  (0.023 ppb) to  $0.6 \text{ ug/m}^3$  (0.045 ppb) total PCBs in air. EPA Region 9 also consulted with our Region 2 office in New York and elected to use at Malibu High School/Middle School a health-based screening level Region 2 developed of  $0.2 \text{ ug/m}^3$  (0.015 ppb) for total PCBs in air. To date, all air data collected at Malibu High School/Middle School has been below  $0.2 \text{ ug/m}^3$ .

The RSL tables provide risk-based concentrations in air for total PCBs, as well as, all PCB dioxin-like or co-planar congeners, such as Congener 126. EPA has examined the limited PCB congener

results provided by the District. To date, all congener concentrations fall within the acceptable risk range.

c. Toxicological Endpoints

Chronic and long-term exposure to PCBs can elicit a broad range of both carcinogenic and non-carcinogenic health impacts. EPA's risk assessment framework is a formal four-step process as outlined by the National Academy of Sciences. This process includes a formal step referred to as hazard identification. This step in the process is designed to assess the full range of health impacts associated with chronic PCB exposure. In general, toxic exposures are assessed via impacts occurring at the lowest dose on specific target organs or systems. This is referred to as the most sensitive toxic endpoint. Endocrine disruption is considered a mechanism of toxic action rather than a toxicological endpoint in and of itself. PCBs exert their toxic action by several different mechanisms or modes of action and endocrine disruption is potentially one of many.

d. California Human Health Screening Levels.

The California Human Health Screening Levels (CHHSLs) are more commonly applied by the California Environmental Protection Agency including its boards, offices, and departments such as the California Department of Toxic Substances Control (DTSC). For more information about the applicable use of CHHSL's please contact DTSC.

**C. Data and Testing**

EPA generally considers all available data when providing technical assistance. Depending on the quality of data collected independently by other parties, EPA may consider that data in making regulatory decisions. All available PCB data for Malibu High School helps us to understand the relative magnitude of the situation at this school.

At this time, air sampling has been conducted in 21 separate rooms at the school. All the air results are within EPA's health protective guidelines for schools and our acceptable RSL risk range for a residential exposure scenario.

EPA did not review, oversee, or accept the sampling plan implemented by the District before EPA's involvement with the Malibu High School site. However, we accepted the District's plan for sampling air and surfaces inside the five rooms with elevated caulk and/or wipe samples. Also, we were at the school when air and wipe samples were collected inside those rooms. Similar to the air samples collected at the school before EPA's involvement, these latest air sample results are all below or within our acceptable risk range for schools and residential exposure scenarios.

**D. PCB Best Management Practices and PCB Cleanup Plan**

EPA has recommended that the District implement PCB Best Management Practices (BMPs) to reduce the amount of PCBs in dust and air. The District conducted limited cleaning of certain school rooms during the 2013 – 2014 school winter break. The results of this cleaning are very positive as they show reductions in PCB air concentrations by approximately 50% and in dust by approximately



EPA's Responses to Ms. deNicola's Questions and Items Submitted to EPA on March 10, 2014

90%. As noted in the cover letter, we are aware that certain sampling conducted without EPA oversight show less reduction in air concentrations.

The District has verbally informed EPA that it intends to implement the BMPs throughout the Malibu High School/Middle School and other schools within the District. The District's cleanup plan is due to EPA on April 25, 2014. We expect the District will (1) identify specific BMPs and explain in the plan with sufficient detail the approach and schedule it will follow to implement the proposed BMPs, (2) explain its approach to address caulk at the school, and (3) provide a schedule to conduct the work proposed in the plan. We will also work with the District to develop a testing protocol to ensure that surfaces do not represent an exposure hazard.

**E. Contaminated Soils**

The California Department of Toxic Substances Control (DTSC) has entered into a Voluntary Cleanup Agreement with the District to further investigate soil contamination at the Malibu High School. EPA is coordinating with DTSC on this effort to assure that soil samples for PCB analysis are collected in areas near known potential PCB sources.



## Exhibit E

**From:** "Scott, Jeff"  
**Subject:** RE: Malibu  
**Date:** June 18, 2014 at 11:19:52 AM PDT  
**To:** "John, Steven" , Penny Newman  
**Cc:** "Armann, Steve" "Huetteman, Tom" , "Mogharabi, Nahal" "Nurre, Deirdre" , Jennifer DENICOLA ,  
"slyon@smmusd.org" <slyon@smmusd.org>

Penny-

Thanks for your inquiry. Let me just add a little more to Steven's response in the hope that it's helpful. As Steven refers to below, there's been a misunderstanding regarding what EPA provided to the District in the way of input. Last week we provided input for the cleaning and testing of the classrooms in the near term. The cleaning is designed to remove dust to prevent potential exposures. The sampling is to determine what levels of PCBs are present in the air and in terms of dust. We feel it is important for that work to move forward.

The district still owes us a plan for the remediation effort by July 4th. People were getting confused that our comments on the near term effort were an approval of the remediation plan - which is not true. That plan will be made available for our review and the review of others. I had a good call with Jennifer DeNicola yesterday afternoon to clarify this. I'll also attach below a copy of an e-mail that Steve Armann sent to Jennifer earlier that reviews this in more detail.

I hope this is helpful. Feel free to contact Tom Huetteman or Steve Armann if you would like more detailed information. If you attend, I will look forward to seeing you on Friday.

Best

Jeff

Jeff Scott  
Director, Land Division  
EPA Region 9  
75 Hawthorne St  
San Francisco, CA 94105  
Phone: (415) 972-3311  
Fax: (415) 947-3530

## Exhibit F



June 13, 2014

### MEMORANDUM

To: Tom Huetteman, Assistant Director, RCRA Branch, Land Division, EPA Region IX

From: Doug Daugherty, Eric Wood, Yi Tian, ENVIRON

Cc: Steve Armann and Carmen Santos, EPA Region IX  
Sandra Lyon and Jan Maez, SMMUSD

Re: **Additional Information on the Selection of Representative Rooms for Air/Wipe Testing  
– Revision 1**

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The following was prepared by ENVIRON and is intended to provide additional information on the collection of air and wipe samples at Malibu High School (MHS)<sup>1</sup> during the summer of 2014 (June 16 through August 8) as requested by EPA in its June 4, 2014 letter to SMMUSD (specifically, the request related to the sampling plan for MHS and comments A.2 and A.3).

The goal is to obtain samples from a sufficient number of locations and site-specific conditions to:

- 1) Serve as representative of the variety of potentially PCB-containing materials<sup>2</sup>, conditions, and possible exposure pathways (inhalation, dermal, and incidental ingestion);
- 2) Address specific concerns of the community and staff at MHS;
- 3) Evaluate previous sampling efforts;
- 4) Assess effectiveness of Best Management Practices cleaning; and
- 5) Draw scientific conclusions on the potential presence of PCB-containing building materials and the potential for exposures to PCBs at MHS.

#### I. Overall Process for MHS

- a. Schedule needs to be based on a Building (or Room Group) by Building basis in a rolling parallel process to accommodate the scale of the work to be conducted during the summer (from June 16 to August 8) – see accompanying schedule.
- b. General Sequence for a Building/Room Group
  - i. Building Inspection by Building or Room Groups
  - ii. Determine representative rooms in that Building or Room Groups for pre-cleaning air and wipe sampling
  - iii. Conduct pre-cleaning air and wipe sampling in representative rooms in that Building or Room Groups

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<sup>1</sup> Although not part of the EPA's June 4<sup>th</sup> request involving MHS, the process outline in this document also covers the work to be conducted at Juan Cabrillo Elementary School (JCES) that will be conducted during the same time period as the MHS efforts.

<sup>2</sup> For purposes of this document, PCB-containing shall mean materials that contain any measurable concentration of PCBs detectable using common analytical procedures for air and wipe samples.

- EPA's June 4<sup>th</sup> comment letter<sup>4</sup> specifically recommended that the District move forward with the Building Material Inspection Plan and PCB Best Management Practices (BMPs) part of ENVIRON's Plan when EPA stated: "The "Building Material Inspection Plan" and the "PCB Best Management Practices" contained in the General Plan do not require EPA approval, and **we recommend that the District move forward with these activities at MHS [emphasis added]** before the MHS plan is finalized."
- This was further confirmed in an email<sup>5</sup> from EPA to ENVIRON on June 13<sup>th</sup> (Attachment 4), which stated "EPA concurs with your approach to testing as described in the plan forwarded " by ENVIRON and said "I also want to confirm that we [EPA] do support the District conducting inspections and BMPs as stated in our June 4, 2014 letter".
- Furthermore, EPA expressed appreciation of the expedited implementation of the building inspection plan and BMPs part of ENVIRON's plan. As stated in an email<sup>6</sup> from EPA to ENVIRON on June 11<sup>th</sup> (Attachment 5), "We understand that ENVIRON and the SMMUSD will begin to implement the Testing Plan at the Malibu High School (MHS) and Juan Cabrillo on June 16, 2014. We appreciate ENVIRON and SMMUSD's expedited implementation of Section 2 (Inspection) and Section 3 (Best Management Practices) of the General Plan."

From the statements made by EPA, it is clear that they support the implementation of ENVIRON's building inspection, BMP, and samplings plans at MHS, which will also be implemented at JCES, and have not "rejected" these plans. Our understanding of EPA's basic comment in its June 4<sup>th</sup> letter was a request to restructure the original report so that specific activities at MHS in areas where previous caulk sample results indicated PCB concentrations greater than 50 ppm are clearly separated from the general Plan to allow for EPA regulatory approval of activities under areas of its regulatory authority.

#### **EPA's June 4<sup>th</sup> request is related to regulatory approval authority**

Based on ENVIRON's review of EPA's June 4<sup>th</sup> comments on our Plan and subsequent discussions with EPA, it is ENVIRON's understanding that EPA is requesting submissions to them be split into two categories: 1) those that fall under their regulatory approval jurisdiction and 2) those that are not under their jurisdiction for regulatory approval. Our understanding is that EPA wants to clarify their regulatory role and will provide regulatory approval only for specific aspects under their regulatory jurisdiction in accordance with the Toxic Substances Control Act (TSCA), which currently only involves MHS Library, and Blue Building Rooms 1, 5, 8, where previous caulk sample results indicated PCB concentrations greater than 50 ppm. For all other aspects of the District's and ENVIRON's plans related to the potential PCBs in building materials, ENVIRON understands that the EPA would provide recommendations and suggestions on these plans (as they did in their June 4<sup>th</sup> letter) but would not be granting regulatory approval of these plans since it is not under their regulatory jurisdiction. We are scheduled to meet with EPA to further clarify their intent and the additional information requested by them.

<sup>4</sup> Letter from S. Armann, Manager Corrective Action Section, Land Division, EPA Region IX, to S. Lyon, Superintendent of SMMUSD. June 4, 2014.

<sup>5</sup> June 13, 2014 email from T. Huetteman, Assistant Director RCRA Branch, Land Division, EPA Region IX to D. Daugherty of ENVIRON.

<sup>6</sup> June 11, 2014 email from T. Huetteman, Assistant Director RCRA Branch, Land Division, EPA Region IX to D. Daugherty of ENVIRON.



each of the aroclors is 0.1 µg/sample (except for Aroclor 1221, which is 0.2 µg/sample), which translates into approximately 1 ng/100cm<sup>2</sup> (or 2 ng/100cm<sup>2</sup> for Aroclor 1221).

1. As many samples require next day service, wipe samples will be sonicated in the extraction solvent rather than using the soxhlet extraction procedure. Based on information from ALS Laboratory in Salt Lake City, Utah, the spike recoveries are essentially identical for either method. The laboratory will aim to achieve a surrogate recovery of at least 65% and a matrix spike recovery on the same wipe type of at least 75%. If the results are below these targets (i.e., low biased), the validity and acceptability of the data will be evaluated,
2. Representative materials and types of surfaces for wipe samples
  - Caulk and glazing on windows and doors (deteriorating and in good condition)
  - Vertical surfaces (e.g., walls) with lower exposure potential
  - Horizontal surfaces with higher exposure potential

The intent of these samples is to measure dust for assessing exposures due to direct contact with the material/surface. Note that the use of hexane rather than other solvents (e.g., HPLC grade 2-propanol) may cause PCBs to be more readily extracted from certain materials such as caulk and glazing. At the recommendation of EPA<sup>7</sup>, gauze pads used to collect surface wipe samples from caulk and glazing will be wetted with HPLC grade 2-propanol, and all other wipe samples will be collected with gauze pads wetted with hexane.

## II. Factors to be considered in selecting representative rooms for air and wipe testing

- a. Information obtained through meetings with MHS<sup>8</sup> Staff conducted on May 21, 2014.
  - i. Information ranged from cleanliness of rooms to health concerns in various rooms.
- b. Results of prior sampling.
  - i. Sampling (air and wipe) will include Library, Rooms 1, 5, 8, where previous caulk sample results indicated PCB concentrations greater than 50 ppm.
  - ii. Rooms that were sampled previously by The Phylmar Group will be included during the selection process.
- c. Room usage
  - i. Frequency of occupation
  - ii. Age of occupants
  - iii. Exposure potential to surfaces in room
- d. Building materials that may potentially contain PCBs identified during the Building Inspections
  - i. Results of the inventory effort on the types and locations of potential PCB-containing materials

<sup>7</sup> June 11, 2014 email from T. Huetteman of EPA to D. Daugherty of ENVIRON.

<sup>8</sup> And JCES staff.

- ii. Similarities in construction (e.g., bathrooms, classrooms, lab classrooms, administrative rooms, etc.)
  - iii. Number, location, and type of windows in room
  - iv. Type of fixtures in room (e.g., presence of sinks)
  - v. Layout of room in regards to exposure potential
  - vi. Condition of building materials (e.g., flaking caulk, oily stains in light fixtures, other indications of potential PCB contamination)
  - vii. Characteristics of HVAC system
  - viii. Construction year
  - ix. Renovation records, if available
- III. Documentation of information and rationale for selection of sampling locations
- a. Information described in Section II will be documented in a matrix during the pre-inspection and building inspection phase of the work. ENVIRON will collect photographic and/or video documentation during the inspection and sampling activities.
  - b. Selection of representative rooms will be based on this information and both the conclusions and rationale for selection will be documented between the end of the inspection and prior to the collection of any pre-cleaning samples in each Building or Room Groups
    - i. Note that higher selection ranking consideration will be given to factors that could indicate higher exposure potential (e.g., types of PCB-containing materials, conditions of the material, exposure potential or concerns, etc).
- IV. Documentation of sampling results
- a. Sampling results will be summarized in tabular format over the course of the summer.
  - b. Results will be compared to relevant health-based criteria.
  - c. If any of the post-cleaning sample results exceed relevant health-based criteria, the schedule allows for some second round of cleaning and then re-testing. All of these results will be presented in the final report.
  - d. At the end of the summer effort, ENVIRON will prepare a report that contains a summary of all of the inspection and sampling results, ENVIRON's conclusions from the data, and any recommendations, including additional testing or follow up work if warranted based on the data.

## Exhibit G

**From:** "Thomas, Kent" <thomas.kent@epa.gov>  
**Subject:** RE: Southern California Presentation on PCBs  
**Date:** May 8, 2014 at 1:53:33 PM PDT  
**To:** Jennifer DENICOLA <jd18@me.com>

Dear Ms. deNicola:

Thank you again for your interest and request for information. I did have an opportunity to listen-in to the April 28 webinar. I have copied your questions and request below, along with my responses.

**Question #1.** I wanted to know if you have scientific data on Best Management Practices cleaning as recommended by the EPA on the website that proves its effectiveness and how often it needs to be done to be effective. In addition, how can one be sure that it is done effectively?

I will answer on behalf of my office, EPA's Office of Research and Development (ORD), with regard to the research that this office has conducted. As part of ORD's research, no scientific measurement data were collected on the effectiveness of cleaning, how often it needs to be done, and how to ensure it is done effectively for reduction in the potential for PCB exposures. However, ORD did use measurement data from several schools in an exposure model to estimate the potential for children's exposures from inhalation, dermal contact, and ingestion pathways (see link to ORD report below). The results indicate that exposures to PCBs in air and dust inside school buildings are likely to account for most of the exposure. The best management practices that EPA has recommended are intended to reduce exposures to PCBs from air and dust.

You asked how effectiveness of cleaning can be determined. A common approach to assess effectiveness is to perform measurements both before and after implementing changes; for example, collecting surface wipe samples before and after cleaning to determine whether concentrations have been reduced below a targeted concentration. Because there is uncertainty at this time in how often certain steps such as cleaning may be needed to keep concentrations below desired levels, additional measurements may be needed over time to evaluate whether PCB concentrations are stable, increasing, or decreasing. The test interval(s) can be discussed with the Region PCB Coordinator.

Polychlorinated Biphenyls (PCBs) in School Buildings: Sources, Environmental Levels, and Exposures. Thomas K, Xue J, Williams R, Jones P, and Whitaker D. U.S. Environmental Protection Agency, Office of Research and Development, National Risk Management Research Laboratory, Research Triangle Park, NC. EPA/600/R-12/051. September 2012. The report can be accessed and downloaded from: [http://www.epa.gov/pcbsincaulk/pdf/pcb\\_EPA600R12051\\_final.pdf](http://www.epa.gov/pcbsincaulk/pdf/pcb_EPA600R12051_final.pdf)

**Question #2.** My last question is about encapsulation. Do you have scientific data that supports encapsulation is effective?

Based on EPA's Office of Research and Development laboratory research, encapsulation was found to be most effective for interior surfaces that contain low levels of PCBs (i.e. several hundred parts per million or less). Depending on the PCB reduction goal, the performance of the encapsulant, and the conditions of the building, the upper limit of the PCB concentration for successful encapsulation may vary. Therefore, post-encapsulation monitoring is an essential part of the encapsulation process. Building owners should consult EPA's research on this issue for more specifics (see link to ORD report below). Encapsulation may be useful for the reduction of emissions from secondary sources such as contaminated building materials under and around PCB-containing caulk or paint that has been removed. Encapsulation was not found to be effective in reducing emissions from sources that have a high PCB content (for example caulk) for more than a short period of time. Because each site will present unique circumstances, it is recommended that building owners consult their EPA PCB Regional Coordinator regarding the application of encapsulation measures on a case by case basis.

Additional details about EPA's encapsulation research results and findings may be found in this report: Laboratory Study of Polychlorinated Biphenyl (PCB) Contamination and Mitigation in Buildings; Part 3. Evaluation of the Encapsulation Method. Guo Z, Liu X, and Krebs K. U.S. Environmental Protection Agency, Office of Research and Development, National Risk Management Research Laboratory, Research Triangle Park, NC. EPA/600/R-11/156B. April 2012. The report can be accessed and downloaded following the link from this web site: <http://www.epa.gov/pcbsincaulk/caulkresearch.htm>

**Request for Data.** Would you please provide me with any data you have for both encapsulation and BMP.

I believe that all of the available supporting data and information as developed by EPA's Office of Research and Development is provided in the reports linked above.

With best wishes,  
Kent Thomas

U.S. EPA  
National Exposure Research Laboratory  
MD E205-04

Research Triangle Park, NC 27711

## Exhibit H

<http://www.smmusd.org/PublicNotices/PrePostBPMAirSampling0214.pdf>

Exhibit I



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105-3901

January 27, 2014

Sandra Lyon, Superintendent  
Santa Monica Malibu Unified School District  
1651 Sixteenth Street  
Santa Monica, California 90404

Dear Superintendent Lyon:

EPA has conducted a preliminary review of the post-cleaning PCB verification samples from Malibu High School/Middle School. These samples were collected pursuant to the workplan ("Limited PCB Remediation, Verification Sampling Work Plan for Malibu High School / Middle School," The Phylmar Group, Inc.) accepted by EPA on December 20, 2013. The workplan was limited to air and surface wipe sampling in the five rooms with elevated PCB concentrations in caulk or dust based on sampling conducted by the District in November 2013. The purpose of this letter is to inform you of our findings for these five rooms and provide guidance as you prepare a plan to remediate caulk identified as containing 50 parts per million (ppm) or more total PCBs.

PCBs were widely used in caulking materials in buildings built from the 1950s until the late 1970s, as well as in paints and other building materials. It is common to find PCBs at levels greater than 50 ppm in building materials used in structures such as schools that were constructed or renovated during this time frame. The Toxic Substances Control Act (TSCA) regulates materials containing PCBs. It established a concentration of 50 ppm of PCBs as a threshold for materials regulated by TSCA.

EPA has not derived a health based threshold concentration for PCB impacted caulk. EPA research indicates that the potential health risks associated with contaminated caulk come primarily from inhalation of PCBs that have migrated from the caulk into the air. For this reason, EPA recommends that schools concerned with potential PCB contamination evaluate the indoor air quality. If PCB concentrations in air exceed the health based threshold for schools, then potential sources of PCBs should be investigated and mitigated to reduce air concentrations below a health based threshold. Based on EPA practice at other schools, EPA is using 0.2 ug/m3 total PCBs as the health based air threshold for Malibu High School/Middle School.

EPA is providing you with our preliminary findings in advance of receiving the full analytical data report required in the workplan from the District. We expect to receive the full report from you in approximately 20 days. Ms. Katherine Baylor, from my office, was on-site January 3, 2014 to observe the collection of air and wipe samples in the five rooms that had elevated caulk and/or wipe sample results. She observed that all appropriate sampling

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protocols consistent with EPA's acceptance of the workplan were followed. Our preliminary findings below could change upon review of the workplan final report. We are also awaiting EPA laboratory analysis of the independent wipe samples taken by Ms. Baylor. We expect these results in mid February, 2014.

Meanwhile, the post-cleaning air sampling results provided to EPA by the District for the five rooms are below the 0.2 ug/m3 EPA health based threshold for PCBs in schools and within our acceptable risk range for residential exposures. Likewise, all seven post-cleaning wipe samples taken within the interior or exterior of the five rooms are below our regulatory threshold (10 ug/100cm2). When compared to sampling conducted previously by the District, the wipe samples show post-cleaning reductions of between 93% and 99% and the air samples show post-cleaning reductions of approximately 50% in the five rooms cleaned. We understand that the District will be implementing a district-wide cleaning program. EPA recommends that, as part of the cleaning program, the District consider annual thorough cleaning of the school to maintain air quality.

In addition to the analytical report due in February, no later than March 30, 2014 the District must submit a plan that at a minimum addresses the following:

1. Removal of all caulk with known concentrations above 50 ppm PCBs in the library and in Blue Building Rooms 1, 5, and 8. Even though air concentrations are below our health based guidelines, the cleanup plan should include post caulk removal air sampling as well as wipe sampling around the areas where caulk was removed.
2. Mitigation or removal of any caulk that is deteriorating in pre-1979 structures at Malibu High School/Middle School. After mitigation or removal of any caulk, the windowsills and adjacent areas should be thoroughly cleaned.
3. Development of an air sampling plan for EPA approval that, at a minimum, ensures that all rooms in pre-1979 structures at the school will be sampled. It is acceptable for the District to conduct PCB Aroclor analysis in lieu of the PCB congener analysis the District previously conducted.

If you have any questions, please feel free to contact me at 415-972-3352 or at [Armstrong.Steve@epa.gov](mailto:Armstrong.Steve@epa.gov). Thank you.

Sincerely,



Steve Armann

Manager, RCRA Corrective Action Office  
Waste Management Division

cc: Thomas Cota, DTSC

## Exhibit J

PUF. Also, we recommend dual column confirmation with method 8082A. Please also provide the detection limits that the lab will meet for air.

Thanks, Tom

Tom Huetteman, Assistant Director  
RCRA Branch, Land Division, USEPA Region 9  
415-972-3751

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**From:** Huetteman, Tom  
**Sent:** Wednesday, June 11, 2014 5:19 PM  
**To:** 'Doug Daugherty'  
**Cc:** Lyon, Sandra <[slyon@smmusd.org](mailto:slyon@smmusd.org)> ([slyon@smmusd.org](mailto:slyon@smmusd.org)); Maez, Jan ([jmaez@smmusd.org](mailto:jmaez@smmusd.org)); Armann, Steve; Santos, Carmen; Yi Tian; Eric Wood; Beach, John  
**Subject:** RE: EPA Comments of the District's PCB Plan

Doug,

As requested, below are our comments on ENVIRON's June 9, 2014 memorandum regarding "Additional Information on the Selection of Representative Rooms for Air/Wipe Testing" (Testing Plan). We understand that ENVIRON and the SMMUSD will begin to implement the Testing Plan at the Malibu High School (MHS) and Juan Cabrillo on June 16, 2014. We appreciate ENVIRON and SMMUSD's expedited implementation of Section 2 (Inspection) and Section 3 (Best Management Practices) of the General Plan.

1. Clarify in the Testing Plan if the entire process described for MHS is the same process that will be implemented at Cabrillo.
2. Please briefly describe how the results of all the testing will be reported and evaluated. A final report should be prepared that includes a recommendation on additional testing or other work, as needed, based on the finding of the work to be performed this summer.
3. We recommend adding to either Section II or III of the Testing Plan the collection of photographic and/or video documentation during the inspection and sampling activities. We believe this documentation could be useful in interpretation of sampling results.
4. Schedule discussion, Item I.b.vii. For clarification, we recommend adding something like "including rooms not sampled if the data suggests the need to expand the sampling."
5. Room sampling assumption, Item I.c. Clarify if the estimated number of samples covers samples for both MHS and Cabrillo or only the High School. It also appears that the intent is to collect 50% of the samples prior to cleaning. You may want to consider a lower percent of samples prior to cleaning (for purposes of checking the effectiveness of the cleaning techniques) so that a larger number of rooms can be checked post cleaning since these results represent the exposure levels that will remain.
6. Wipe samples, Item I.c.ii. Please clarify the number of wipe samples that will be taken prior to cleaning versus the number after cleaning. Also, we assume that the blanks and duplicates are in addition to this number.
7. TO-10A Air sampling method, and air analysis, Item I.d. The samples should be extracted via EPA Method 3540C (Soxhlet). Sample cleanup methods such as sulfuric acid, Florisil, and mercury shake are recommended as extract pre-analysis cleanup methods to minimize analytical interferences and maintain consistent low detection limits. We recommend the extracted samples be analyzed for PCB Aroclors (and

suggest you consider including Aroclor 1268), following the specifications of EPA Method 8082A (or latest method revision). We are seeking some additional information from other Regions and may have a follow up comment in TO-10A that we will forward on June 12.

8. Room conditions for testing, Item 2. Clarify that windows will be closed during air testing inside the rooms.
9. Wipe tests, Item I.d.ii. The wipe sampling procedure in 40 CFR 761.123 should be followed in addition to the EPA guidance for sample collection and field quality control for surface wipe sampling (<http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/guidance.htm#wipe>) That procedure requires the use of gauze pad templates (10 cm x 10 cm) or glass wool.
10. Wipe extraction and analysis, Item I.d.ii.1. The regulations allow use of either Soxhlet or Ultrasonic extraction. With whichever procedure is used, the wipe surrogate recoveries should be 65% or higher and matrix spikes should be above 75%. If analytical results for spike and surrogate samples indicate the extraction was not efficient (low biased results), the validity and acceptability of the data will need to be evaluated.
11. Caulk and glazing, Item I.d.2. Clarify the purpose of wipe samples for caulk and window glazing. If the intent is to measure dust for assessing exposure due to direct contact with the caulk, then a solvent different than hexane is recommended (e.g., HPLC grade 2-propanol) to avoid extracting PCBs out of the caulk material. If a decision is made to stay with the use of hexane, the results may have a high bias which needs to be considered when interpreting the data.
12. Building Materials, Item II.d. We recommend that renovation records be also considered.
13. The selection of sampling locations (II.d) should also consider evidence from the inspection of possible PCB contamination such as caulk condition, oily stains, or other observations that suggest PCBs levels that may be higher than in other locations.

Tom Huetteman, Assistant Director  
RCRA Branch, Land Division, USEPA Region 9  
415-972-3751

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**From:** Doug Daugherty [<mailto:ddaugherty@Environcorp.com>]

**Sent:** Monday, June 09, 2014 4:42 PM

**To:** Huetteman, Tom

**Cc:** Lyon, Sandra <[slyon@smmusd.org](mailto:slyon@smmusd.org)> ([slyon@smmusd.org](mailto:slyon@smmusd.org)); Maez, Jan ([jmaez@smmusd.org](mailto:jmaez@smmusd.org)); Armann, Steve; Santos, Carmen; Yi Tian; Eric Wood

**Subject:** FW: EPA Comments of the District's PCB Plan

**Importance:** High

Tom,

Thank you for your comments. Carmen Santos has reached out to Eric Wood to set up a conference call on either Tuesday June 17 or Wednesday June 18. The District would like to attend the call as well and the mutually available window for us is between 9:30 to 12:30 on the 17<sup>th</sup>.

In your letter, EPA also requested notification at least one week prior to the beginning of the planned summer Building Inspections that we are moving forward with in accordance with EPA's concurrence on the proposed Building Inspections and BMPs at Malibu High School (MHS) (and which will also be done at Juan Cabrillo Elementary School (JCES)) per our Draft Comprehensive Plan. These are scheduled to begin next Monday, June 16<sup>th</sup>. As there is a good deal